

the BULLETIN

LIC 2015 | AUTUMN



DNA profiled herds:
Better, faster, stronger.

Breeding Worth:
on-going enhancement.

Black-and-white game
changers. Focusing on the
Holstein-Friesian bulls.





Geoff Corbett,
General Manager
Biological Systems.

GET OFF THE GRASS? YOU'VE GOTTA BE JOKING!

Since the upheaval of the 1980s, when agricultural subsidies were stripped, New Zealand farmers have learned to prepare, adapt, and – importantly – take advantage when the inevitable opportunities arise.

Profitability and efficiency, we've learned, provide us with options.

Profitability and efficiency must continue to be the cornerstone of successful dairying in this country – regardless of the system or technology utilised.

And, around these parts at least, the best way to make a profit is by breeding animals that repeatedly convert relatively low-cost feed into high-quality, valuable, milk.

Whether you see it as by good luck or good design, the New Zealand cow is renowned for her ability to efficiently produce milksolids, and get in-calf each year (and keep doing so for an average of five lactations).

Low-input or high-input, these systems continue to tap into the power of pasture, and this is why New Zealand farming remains the envy of dairy producers the world over.

In the past 20 years alone, average milksolids production of the New Zealand cow has shown a remarkable increase, going from 278kg (1995) to 371kg (2014).

Sixty per cent of that increase can be attributed to genetic improvement.

Biological systems, information systems, or automated hardware systems, New Zealand's dairy industry is at the cutting-edge of technology. And the industry continues to embrace, learn, and benefit from, change.

In recent years, a small but increasing number of New Zealand farmers have introduced housing barns into their system – and this is highly appropriate in areas where it's deemed most-profitable to do so.

After all, the New Zealand cow is proven to perform under high-feeding environments; in other words, the engine room of housing barns, in New Zealand at least, is still fuelled largely by grass and home-grown crops.

That's why, in this edition of The Bulletin, we feature a few articles that reference 'high-input farming'.

One of the articles explains that the cooperative is, in essence, 're-launching', a high-input index – making available a selection of bulls specifically geared toward this type of farming.

The number one bull on LIC's high input index, Beamer, is ideal for farmers who continuously feed

through the seasons – Beamer's daughters appear to pump out protein like there's no tomorrow (incidentally, Beamer is number one on the Ranking of Active Sires List too!).

Whether running a high- or low-input operation, New Zealand's seasonal approach to dairying remains nicely-balanced with the fundamental principles of herd improvement.

That is, good culling decisions complemented by selection of the best sires with which to mate the herd, given the herd's environment and system.

This leads to the constant practise of breeding high-quality herd replacements, with sharp focus on reproductive performance (to reduce wastage), and provision of options to improve herd quality.

While high-input farming emerges as a legitimate market within our industry, we can't overlook the other emerging trends: Fonterra has recently announced a renewed focus for its 73 organic dairy suppliers, for example.

And a growing number of farmers are now choosing to reduce stocking rates; they're milking fewer cows, but they're doing so with higher genetic merit animals, meaning compromises to production are minimised, if not inconsequential.

These farmers tend to feed more to their best cows, driven by their desire to get more return on their investment (and that applies to both the land and the herd!).

In other words, they're doing more with less.

That's efficiency.

It's also vision.

Yes, as times change it's odds-on the industry will become increasingly fragmented and we may see more farmers choosing to be at the edge of system one or at the edge of system five.

What's important, the constant, is that our cows keep getting fed pasture-based diets.

Ask yourself – should New Zealand fall back into line with what the rest of the world can already do, or should our industry continue ramming home its competitive advantage; milking cows that excel on pasture-based diets.

Because that's where we do dairying better than anyone.

It really is a no-brainer.

I hope you enjoy the information and articles in this autumn's edition of The Bulletin, and wish you a great start to the new season in June.

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Breeding Worth – on-going enhancement



Dr Jeremy Bryant, NZ Animal Evaluation Limited (NZAEL) Manager

Changes to the BW Index and economic weightings

- The BW Index is the responsibility of DairyNZ (administered and managed by subsidiary organisation, New Zealand Animal Evaluation Limited; NZAEL).
- New Zealand's dairy industry is constantly evolving, and this requires ongoing fine-tuning of the animal evaluation system to suit; the inclusion of Body Condition Score in BW, and the revision of liveweight values, are examples of this.
- To maintain the accuracy of BW and to ensure it is a true reflection of the dairy industry and what's on-farm today, economic values are reviewed annually. This includes prices, costs, and weightings from milk processing companies.
- The economic values are updated annually to maintain alignment and accuracy of BW for today's farming businesses, with up-to-date prices and costs.

2015 is set to be a big year for Breeding Worth (BW), with a range of updates and improvements either already in play, or coming over the next 12 months.

Improvements include a routine update to economic values, a change to how liveweight breeding values are calculated, and an upgrade to the economic models for fat and protein.

These initiatives were implemented in February's Animal Evaluation run.

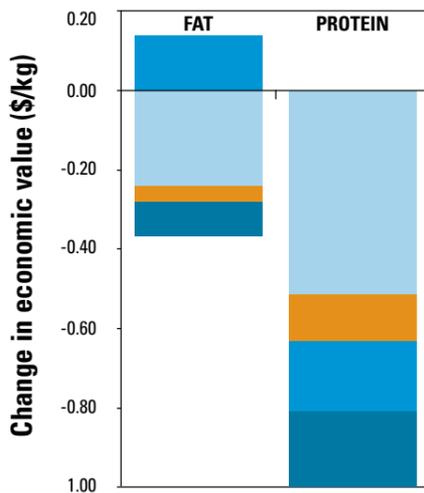
June will see a revision to how body condition score (BCS) breeding values are calculated, in preparation for the inclusion of BCS in BW in February 2016.

Updated economic values

Every year, economic values are updated to reflect historical and forecast milk component prices, feed, and farm costs.

In addition, the models that produce the economic values for fat and protein were also modified in February, and these two updates have combined to result in some noticeable changes to the economic values for fat and protein (Box 1).

Overall, these lower fat and protein economic values caused a reduction in Breeding Worth.



Box 1: Effect of changes in milk solids price, value of fat to protein, production costs and the payment method on the economic values of fat and protein.

Changes to liveweight breeding values

In late 2013 concerns were raised about whether liveweight breeding values were an accurate representation of mature cow liveweight differences between breeds.

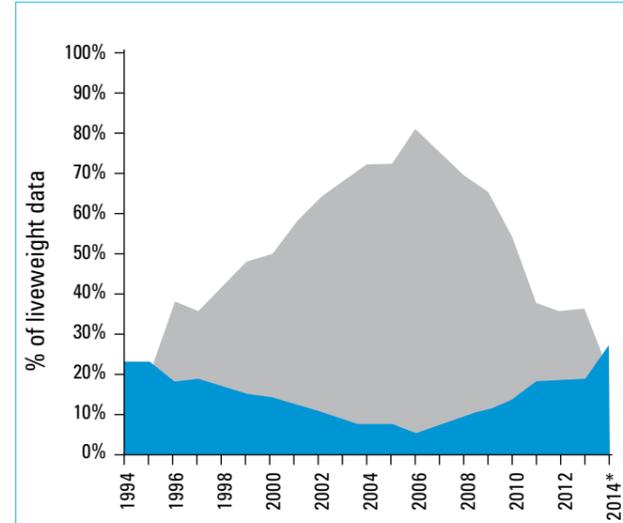
To address concerns, NZAEL obtained mature cow liveweight measurements from progeny-testing herds during autumn 2014, and undertook an analysis of existing liveweight data.

These measurements indicated that liveweight breeding values were underestimating the true mature cow liveweight differences between breeds.

NZAEL found there was a relatively high percentage of actual mature liveweight data held on the database when liveweight was first introduced in BW (see Box 2).

Over time, two-year-olds' liveweight records have tended to dominate liveweight records.

This large proportional amount of records from two-year-olds made it difficult for the animal evaluation to predict mature equivalent breeding values.



Box 2: % of liveweight records from 2 year (red) and 6-8 year olds (blue) entering the national database over time. *2014 only encompasses the period of 1 Jan 2014 to 22 Jun 2014

From February 2015, NZAEL made a change to liveweight breeding value (BV) estimation.

All younger animal records (<5 years of age) are now forecast out to mature age equivalents before running the liveweight animal evaluation model.

This change resulted in a downward shift in the liveweight BV of Jersey and Holstein-Friesian x Jersey, as they mature earlier for liveweight than other breed categories (Box 3).

There is a corresponding slight upward shift in the liveweight BVs for Friesian, which matures more slowly than other breeds.

The BW of Jersey animals, most noticeably, increases as a result.

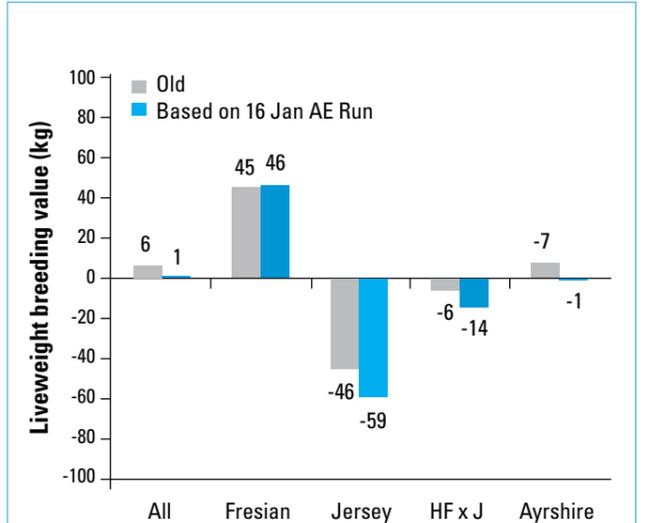
Body condition score - a new trait for BW

There is nothing worse than having to dry off a cow that is still producing high levels of milksolids, just to ensure she reaches BCS targets at next calving.

To address this, we have been looking at BCS as a candidate trait for BW, and BCS will be included in BW from February 2016.

The economic value of BCS comes from two main components.

- First, the reduced costs from a cow maintaining or losing less condition, as opposed to a cow that loses lots of condition in spring (then having to replenish condition in autumn or winter when feed is more expensive).



Box 3: Comparison of liveweight breeding values estimated using the historical and new method to calculate liveweight breeding values for bulls born 2006 to 2010 with a BW reliability greater than 75%.

- Second, the value of a well-conditioned cow milking well into late-lactation, rather than drying her off early for poor condition.

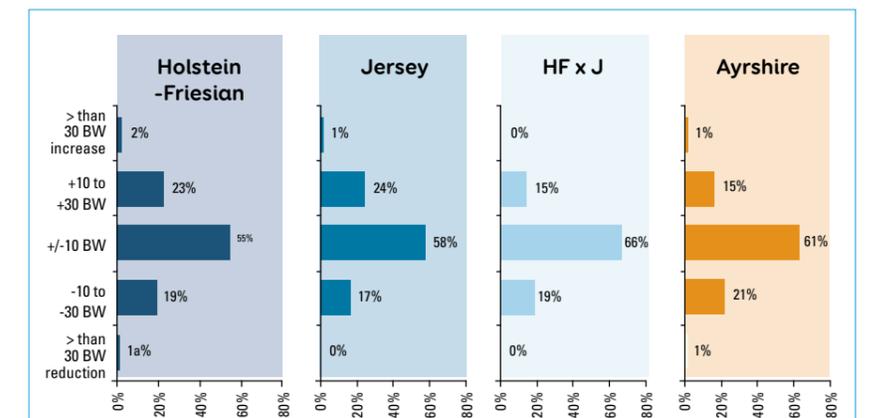
These result in an economic value of \$106 per 1 BCS.

To support the inclusion of BCS in BW in 2016, we are revising slightly how BCS breeding values are calculated in June 2015.

The revised BCS breeding values will be accessible to farmers at that time.

Breeding companies have already used prototype BCS breeding values to inform their bull selection decisions.

The expected shift in BW for bulls, from the introduction of BCS, is presented in Box 4.



Box 4: Effect of implementation of BCS in BW on bull BW

DNA profiled herds: Better, faster, stronger.

Farmers that tap in to DNA parentage testing to correctly identify calves and breeding lines appear to own herds that enjoy faster rates of genetic gain.

That's according to LIC analysis carried out by GeneMark diagnostics.

Data showed nearly a 21 percent difference in genetic gain rates between herds that had been DNA profiled versus those that had not been DNA profiled.

The analysis compared average breeding worth (BW) and production worth (PW) figures of all New Zealand herds between the years of 2011 and 2014 inclusive.

"Specifically, the findings showed a 20.59% better-than average rate of BW

gain, and a 20.69% better-than-average rate of PW gain, when GeneMark Whole Herds are compared against the remainder of herds in New Zealand," said Katherine McNamara, LIC diagnostics product specialist.

To correctly identify progeny through GeneMark Whole Herd, farmers obtain a DNA sample from animals within the herd - including all dams, previous seasons' progeny, and calves.

Once the samples are received, GeneMark scientifically matches current season's calves to both a dam and a sire.



This allows farmers to accurately retain animals with highest BWs (as replacements), simultaneously ensuring that the genuine bottom-end of the herd is removed or sold.

Michael Browne, a 350-cow sharemilker of Orini, has been using GeneMark Whole Herd for the past three seasons.

He said the tool made the task of calving and calf-identification a whole lot easier, and would recommend LIC's GeneMark service to anyone.

"My two main goals for the herd are to achieve 100% ancestry, and to lift my BW and PW.

"The Whole Herd product allows me to bring in the best stock and sell the worst; GeneMark is certainly helping me achieve this."

McNamara said GeneMark's effectiveness was reflected in the number of farmers demanding the Whole Herd parentage service, with a significant increase in laboratory workload over the past three seasons.

"We now have more than 1300 customers using Whole Herd, compared to 744 customers in 2010," she said.



IN THE GENES: Orini farmer Michael Browne uses GeneMark to eliminate the chances of mis-mothering in his herd, avoiding potential headaches while helping improve the value of his herd

"My two main goals for the herd are to achieve 100% ancestry, and to lift my BW and PW".

"Farmers are obviously more aware of the problems associated with mis-identification during calving. Many farmers admit there are times of uncertainty when it comes to calf recording, and this is backed up by industry analysis."

The average rate of mis-recording still stands at 25%, McNamara said.

"Beside ensuring the right replacement stock is chosen to maximise genetic gain, any surplus heifers that are fully recorded and DNA-verified will make the animals more attractive propositions come sale time."

Brent Houghton of NZ Farmers Livestock Ltd endorses McNamara's point:

"Fully-recorded young stock obtain a significant premium, which can be up to double the price of half-recorded animals at sale - and if they're DNA verified to both dam and sire they are easier to sell."

McNamara said increasing the rate of genetic gain was an investment that offered value, but both its effectiveness and potential return could be diminished if parentage was mis-identified or mis-recorded.

"Ensuring the right genetics are preserved and that the AB investment is protected promotes increased rates of genetic gain," she said.

Ultimately, this allowed for a more productive and profitable herd, in quicker time.

For more information on GeneMark Whole Herd contact your Farm Solutions Manager or GeneMark on 0800 GENEMARK (0800 436 362) email: genemark@lic.co.nz



Katherine McNamara, diagnostics product specialist

High Input Index Re-Vamped

New Zealand farmers have a reputation for innovative thinking and an ability to adapt to change.

It's just as well.

Because farming systems within New Zealand have experienced significant change during the last two decades - and there's certainly no room nowadays for a 'one-size-fits-all' mentality.

For example, the obvious increase in the use of supplementary feed indicates that, in the last 10 years alone, the portion of farms defined as 'medium- or high-input' has more than doubled (Dairy NZ, Dairy at Work).

New trends are emerging, fast.

LIC is acutely aware today's shareholders operate their farms under a wide array of conditions.

Beside the range of environmental (water, air, land/soil structures) and geographical (terrain, topography) footprints throughout the country, differing regions also have unique weather systems or micro-climates, and, not least of all, local-body regulations.

Other factors that might have an influence on what system of farm to run could include access to scarce resource,

such as money or land (capital investment/infrastructure and payment systems), or adherence to a philosophical standpoint (such as a specific approach to animal welfare).

LIC knows it has a responsibility to cater to a variety of dairy farm systems, from one through to five.

But, whether farming system one or system five, one factor remains consistent: To maximise profit, the animals used within the system must be the most efficient they can be when it comes to converting feed into profit.

As expected, high BW bulls are well represented when ranked on the High Input Index.

Breeding Worth (BW, or 'the index') is a proven measure of this efficiency, and recent DairyNZ work strongly indicates the index remains an excellent measure across all production systems.

It is acknowledged, however, that the further a system differs from the 'norm' (for example, 'very high' production system, or once-a-day milking), the more important it becomes to 'tweak' the index.

These 'tweaks' are needed because they're likely to better-reflect the traits necessary for the feed regime, or they might give better consideration to conformation traits that are important for the system in question.

Because LIC has obligations to all its shareholders, no matter what system they farm under, the cooperative undertook a survey in 2014 to better-identify the needs of those operating high input systems.

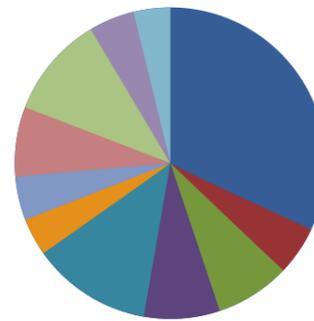
Feedback from the survey confirmed a desire for efficient, high-milksolids, production - with particular focus on protein, strong udders, and capacity.

What was also clear was a desire for genetics that resulted in cows with 'good persistency' - that is, the cows should continue (or improve) strong production well into the second half of the lactation. As a result of the feedback, LIC has updated its High Input Index

The High Input Index, like most other indices, is intended as a robust guide.

When the updated High Input Index was presented back to select farmers (who took part in the original survey), they agreed the changes better-reflected their breeding objectives and would be a solid starting point for bull selection.

The graph below indicates the relevant emphasis of the individual traits within LIC's High Input Index:



	Weighting
■ BV Protein	32.00%
■ BV Milkfat	5.00%
■ BV Milk Volume	8.00%
■ BV Liveweight	8.00%
■ BV Fertility	12.50%
■ BV Somatic Cell	4.00%
■ BV Res Surv	4.00%
■ BV Capacity	7.50%
■ BV Udder Support	10.00%
■ BV Udder Overall	5.00%
■ BV Protein Persistency	4.00%

As expected, high BW bulls are well represented when ranked on the High Input Index.

However when individuals that excel (or do not excel) in protein, udder conformation, and capacity, are re-ranked, the High Input Index (HI) performs especially well.

Below are some of the high ranking bulls, based on HI, which LIC is anticipating will be well-utilised this year:

111037 San Ray FM Beamer ET, the number one BW bull continues to rank at No 1 under HI. His outstanding protein and fertility, along with exceptional udders and capacity, ensures this guy will always rise to the top - no matter what index!

109238 Kailey Format Kage moves up considerably under this index. Again, what we see here is an outcross bull delivering superior udder conformation, daughters with great capacity, and outstanding protein and fertility levels.

110042 Morris TF Lamont SIF is the industry's top ranked Firenze son. Lamont daughters are capacious and are known for how well they settle into the shed. Featuring positive body conditions scores, these girls also boast great production statistics, highlighted by excellent protein levels.

109230 Hazael Dauntless Freedom, like Kage, is a full pedigree bull that moves up the ranks. Although this Dauntless son requires protection for fertility, his protein and fat levels are simply exceptional. From a Raul dam, the outcross opportunity is an added bonus to his ability to sire great shed cows with super udders.

111044 Waiiau Max Tommo S3F is a class act out of the new graduates. It is difficult to find a weakness throughout his type profile with super udders, tremendous capacity, and level rumps. This early Maximiser son's ability to sire great shed cows is the icing on the cake.

110053 Gooches Fury S2F is a bull that comes well into contention! This outcross Format son shows incredible capacity scores, great udders, tremendous fertility, and excellent somatic cell BVs. He's a bull who will be one of the biggest movers once body condition score is included in the national BW index.



Simon Worth - bull acquisition manager



Black and white game changers

The recent Animal Evaluation corrections will result in various adjustments to the breeding worth (BW) of many sires, dams, and daughters across all three major breeds.



Nick Rolley - sire analyst

From my point-of-view, the two 'take-home' messages are:

1 The top two bulls on the Ranking of Active Sires (RAS) list are still Friesians – **San Ray FM Beamer** and **Morris TF Lamont**, with BW's of \$307 and \$304 respectively. These sires are more than \$33 BW ahead of the best Jersey bull, Manzello (RIP) at \$272. It's an outstanding result that shows how far ahead of their contemporaries these bulls are. These guys are game changers!

2 Many observers of our industry, including economists, bankers, farmers, and consumers, believe demand for milk will increase. The law of economics dictates that when demand increases, upward pressure on prices follow. When prices rise, the economic values in BW will also rise, as will the value of the black and white breed. The future looks promising.

So take heart, and be rest assured, the best black-and-whites are still the best overall.

And, as healthy competition is designed to do, we'll be doing our best to make sure it stays that way!

Focusing on the Holstein-Friesian bulls specifically, there's an outstanding class of graduating sires who are making their debut appearances in LIC bull teams this season.

We continually hear, and have listened for, the need for better udder support and udders all-round, and the new group of graduating bulls delivers. Averaging 0.43 udder support (more than twice that of

the graduating Jersey team at 0.19), 0.52 udder overall, and 0.39 capacity, the bulls boast an average of 36kg of protein and 31kg of fat.

The above is a healthy combination for a variety of farming systems.

There are no fewer than 10 new graduating sires to look forward to, and while too numerous to mention all, some of the highlights include:

111037 - San Ray FM Beamer ET S2F (F14J2). As mentioned, this guy heads the list as the top-ranking sire across all breeds with 307BW and has everything going for him including the following BVs: capacity 0.62; udder support 0.83; udder

overall 0.99, and; massive production power of protein (48kg) and fat (53kg). He does not appear to have too many chinks in the armour (unless you happen to count the J2!), and don't overlook the fact he has fertility of 3.6 and a calving BV of just 0.1 – putting him right in the mix for heifer mating. This guy will sell out so don't miss out!

Despite the J2 factor, Beamer is a true-to-colour Holstein Friesian, and we have had no feedback of off-colour offspring from his Holstein Friesian matings. The perfect bull is hard to find, but San Ray FM Beamer looks like being the best bull to come along since his Dad – our thanks to Ray and Sandra Hocking.

Speaking of Mint Edition sons, Beamer is one of five to make the team, the others being:

- **111036 Arkan FM Buster S2F (F14J2)**. Beamer's full ET brother at 246BW. High Fertility at 4.7 and balanced TOP BVs throughout: 0.33 overall opinion; 0.46 capacity; 0.48 udder support, and; 0.40 udder overall. Carrying the well-known Arkan prefix, the ET work and breeding focus employed by Stewart and Kathryn Anderson continually graduates bulls into various LIC proven bull teams. Thanks Stewart and Kathryn – you have another picture for the wall with Buster!
- **111055 Deltop FM Harlequin S2F (241BW)**. More fantastic fertility at 3.5, and 41kg of protein to complement. Michael and Christine Moffat from Waimate add the Deltop name to the Premier Sires team this season – great work!
- **111011 Ashdale FM Kellsbells S1F (247BW)**. Nothing not to like here across opinion, type and udders, with big, capacious and well-liked daughters. Kellsbells looks like a solid all-rounder hailing from Tokoroa-based Tony and Alison Van Der Hayden's farm. This sire is likely to rise further on the introduction of BCS into BW. A valuable and nicely-balanced bull to add to the team.
- **111082 Hazael FM Majestic-ET (209BW)**. This bull's daughters have good stature and great udder BVs: udder support 0.79; fore udder 0.60, and; rear udder 0.88. His capacity BV indicates slightly negative at -0.18, but one would expect these girls to develop with another lactation or two on board. Our sincere thanks to Nathan and Amanda Bayne from Oamaru.

On the 'Mint Edition-free' side there are five newly-graduating sons of other sires, the most balanced in my opinion being **111044 Waiau Max Tommo**; he's a Maximiser son who delivers across-the-board in TOP with BVs reading: 0.51 overall opinion; 0.77 capacity; 0.53 udder support; 0.56 fore udder, and; 0.74 udder overall. He is out of a cracking Meadows Cow, **Waiau Tenise 85VG**, and is likely to take a move up the BW ranks on the introduction of BCS. One to keep your eye on – and a real credit to his breeders Jim and Sue Webster from Waitara.

When we combine the newly-proven recruits with the 'old hands' (mostly last



TOMMO DAUGHTERS: These daughters of sire 111044 Waiau Max Tommo sport excellent all-round traits other than production, and the bloodlines are Mint Edition-free.

year's graduates) we're looking at a strong, powerful, Holstein Friesian Premier Sires team for 2015.

The 2015 team includes **110042 Morris Lamont** with his massive 304BW and 0.81 capacity, and he sits alongside bulls like **110077 Whinlea PF Esteem** (266BW), **110052 Gydeland Excel Inca** (252BW) and **106227 Edwards Banq Ovation** (230BW).

These are outstanding bulls to consider for nominated matings through the *Alpha Catalogue*.

Use these bulls with confidence, and remember that the best times are yet to come – these sires have all the goods to get you there in fine shape!

Game On

If you're a farmer that follows better breeding principles, mark February 2015 down as a major industry milestone.

Because that's the point in time significant changes to NZAEL's Breeding Worth (BW) index took place, the upshot of which was a 52BW-point shift between the two parent breeds of all Animal Evaluation (AE) enrolled bulls.

Make no mistake, this is the biggest single 'correction' in the industry's index since the Breeding Index (BI) was replaced by BW in 1996 - and the Jersey breed can lay claim to being the big winner from it.

The selection (BW) index has monthly runs (fortnightly during the spring) that routinely capture and update daughter production information to generate new bull proofs.

But February was significant, because, aside from adding another month's herd test data, it updated the following:

- Longevity
- Calving difficulty
- Fertility
- SCC
- Economic values (weightings attributed to the various breeding values (BV))

But structural changes to BW, or alterations to the National Breeding Objective (NBO), are traditionally also addressed during February - and that's where the Jersey breed came to the fore.

As alluded to, the shift occurred due to more of a correction, or update, rather than any 'change'.

The impact has been two-fold:

- A.** Economic Value (EV) updates. BW is about conversion efficiency and profitability, and in a year like this we know what impact milk price has on farm profitability. BW is also affected. Cost and profit models within BW are sharply affected by milk price. A five-year rolling average is used to capture milk price, so the influence of high and low payouts can therefore be significant. BW is made up of seven components (breeding values), with fat and protein the most influential. Slash the milk price and you slash the influence of fat and protein. The effect is most noticeable for the high output breed, and, coupled with an additional 'volume adjustment methodology' correction, the sum of economic values sees the (average AE-enrolled) Friesian bull dropping 8 BW points; meanwhile the average Jersey will be bolstered by 20 BW points, thanks to her conversion efficiency.

- B.** Liveweight correction. The underlying liveweight differential between the two parent breeds within the model has, for a long time, been understated. This was caused largely by the majority of liveweight information coming out of SPS herds being two-year-old information; while it was great data it was not reflective of the true situation when mixed-aged cows were included. This issue has been researched, data collected, and corrected. The correction shifts the average Jersey bull up 12BW points and costs the average Friesian 12.

The net effect of the economic value updates and the liveweight correction is at least 50 BW points.

What does this mean?

BW is fundamentally unchanged - it still has seven components, but it now more-accurately represents the industry, and the main breeds within the industry.

BI was about productivity; clearly BW is about profitability (most influenced by milk price) and conversion efficiency (best defined with a high degree of liveweight accuracy).

In recent years, Jersey has, figuratively-speaking, run fourth in a three-horse breed race.

But that gap has now disappeared; this year the breed offerings will be very similar across the breeds and with the current positive momentum in the Jersey breeding programme, this looks set to be maintained.

As a breed the industry has been guilty of undergraduating super Jersey bulls in recent years - and I caution that we may still have a year or two of leaner graduation rates.

However, we are now 'in the game' - and looking toward the medium to long term, it's now indeed a case of 'Game On'!!



It is with great pleasure that I profile the leading lights of the Jersey stable

The star of the AE run was **311019 SOUTHLAND JERICO ET S3J** at 255BW, highlighted by a massive 5.8 Fertility BV, a 0.53 Capacity BV, and a super-consistent management trait profile which averages 0.26.

There is a lot more upside to come for this guy. He will get a favourable kick from the imminent inclusion of Body Condition Score in February 2016. If it was added today, Jericho would sit at 287 - number two on the Ranking of Active Sires (RAS) list, behind the great Terrific at 299.

His sire Tahau Hank S3J brings a little diversity, and his maternal ancestry sire pathway is legendary. The Manhattan dam Southland Mans Jean is the premier cow in Southland and leads a super family. The sire pathway read like this; Manhattan, Samuel, Forever, Parsley and Dante!

I offer my warmest congratulations to his breeders, Mark and Megan Heslop. The Southland herd and farm is being sold this season and this is just-reward to a great couple, and an outstanding herd of cows.

Continuing issues with LYNBROOK TERRIFIC's semen production makes it well worth considering his very impressive sons, the pick of which I consider as **311013 OKURA LT INTEGRITY**. A super-balanced proof is highlighted by a 0.83 Capacity BV, which is likely to not only come from his super Dad but also his highly-impressive Likeabull dam. Watch out for a further



JUMP FOR JERICO: 311019 Southland Jericho ET S3J was a big winner in the February Animal Evaluation run, and appears to have more to come - watch this space.

28 BW point lift with Body Condition Score - which would see him in the mid-250s if the update occurred now.

311016 OKURA TRAIL LEADER has taken a dip in BW on the back of a fertility drop, but his 16.3 protein BV is worthy of note. Let's put it into perspective: at 259 BW he currently sits at number eight on the RAS list. The average protein BV of the other nine bulls that make up the top 10 is 6.6! Speedway set the scene at 14 protein, and this guy breaks the 16 mark. What an outlier!

Speaking of **Speedway** - with protein, liveweight, stature, management traits, and outstanding udders - he's still the complete package. Last year this sire was LIC's second-highest selling nominated bull of all breeds, so don't hesitate to use heavily again this year.

The future looks exciting - embryo transfer (ET) activity is high, ensuring the breed's very-elite females are being well utilised. Annually, we're tagging great groups of young bulls for SPS. So we've got the basics right - I'm certain this is a breeding programme you can trust to graduate.

Breeding is a simple game, (within Livestock Selection at LIC, across the three breeds), more of a responsibility. This game certainly has three teams; Jersey is very much one of them.

Game On!



ON THE RIGHT TRACK: 309012 Kelland Speedway offers so much of what farmers are chasing in the Jersey breed.



Malcolm Ellis, bull acquisition manager

KiwiCross™

This season LIC's livestock selection team has graduated an exceptional number of KiwiCross™ bulls, with nine out of 12 bulls in the KiwiCross™ Daughter Proven Premier Sires team new graduates.



Casey Inverarity
senior sire analyst.

It is a pleasure to outline some of the highlights of the new boys in town.

These include an assembly of Solaris and Mint-Edition sons, and something a bit different from the Kraakman stud.

1) The Solaris Effect

Though it is three years gone, it feels like only yesterday that we featured Ingrams Ramrod, and the great legacy he had left behind with his tremendous sons.

One of those sons, Priests Solaris, is now leaving a mark in his own right.

Since we first profiled Priests Solaris in 2010, he has made huge waves in New Zealand and offshore.

Solaris has now chalked-up more than 330,000 inseminations across six seasons, and has again been named in the potential 2015 Premier Sires team.

Given Solaris' sire of sons usage as a genomic bull, we now have three sons that have joined Solaris on the Ranking of Active Sires (RAS) list and who we're sure won't disappoint: Solar Keet, Sovereign, and Wildfire. With their sires' hallmark of great capacity, these bulls do all the protecting required when it comes to dairy conformation. The bulls will also see a BW boost once late-lactation body condition score is added to BW in February 2016.

Bred by Steve and Nina Ireland of Temuka, **Lynbrook Solar Keet** is currently our number one new graduate at 284 BW. When it comes to capacity, Solar Keet outperforms anything else in the market at an incredible 1.31. This makes him the strongest-capacity bull ever marketed and bred in New Zealand! Solar Keet also offers fantastic temperament and strong production BVs, second only to Burwells Riley. This is a bull that is bound to live up to high expectations, particularly when mated to sturdy-uddered cows.

The most balanced of the new-comer bulls - with outstanding capacity, strong udders, and siring daughters who

are well-liked - **Drysdale Sovereign** is a bull which will no doubt be of massive interest. Now at 238 BW, Sovereign has steadily climbed the ranks since first acquiring his daughter proof in spring. Long may his ascent continue! Given the well-roundedness of this bull, he is destined to be used as a sire of sons, a feat not to be taken lightly. Hats off to Gavin and Graeme Drysdale of Eketahuna.

The final Solaris son to be profiled here, **Browns Wildfire**, currently sits at 229 BW. As well as leaving that great capacity and good body condition, this bull is set to leave healthy daughters with high fertility and low somatic cell counts, and, given the proofs to date, the daughters promise to simply last the distance in the herd. Well done to his breeders Murray and Judith Brown of Hawera.

2) Team Mint-Edition

Mint-Edition is, of course, a legend in his own right.

Farmers continue to rave about his daughters in their herd, and we're aware he's being missed by many.



CAPACITY KING: Lynbrook Solar Keet is big on capacity but also offers excellent temperament and production breeding values.

The great news is his first crop of sons is coming through with daughter proofs of their own, and not only has Mint-Edition produced stand-out Holstein Friesian sons, he has also been well-utilised in the KiwiCross™ programme, with three particularly outstanding sons.

Joint venture full brothers **Howies Arkans Ramada-ET** and **Howies Arkans Revller-ET**, bred by George and Glenda Howie (Morrinsville) and Stewart and Kathryn Anderson (Otorohanga), are currently our top two KiwiCross Mint-Edition sons.

Despite Checkpoint leaving a big gap in the KiwiCross™ team, it is hugely beneficial that the opportunity remains to inject some more of this potent bloodline into herds through use of these brothers.

Ramada and Revller are out of Checkpoint's incredible Gloaming SS Forever granddam, who has a BW of 283 and PW of 678. Not bad for a cow born in 1999!

Like Checkpoint, Revller and Ramada are leaders in the BW stakes, coming in at 271BW and 262 BW respectively. With a breed mix of F11J5, these bulls are set to sire fertile cows that will be a great fit over the more-capacious cows.

Brian and Julie Burwell of Putaruru have bred an absolute production machine in **Burwells Riley**, who rivals even the best Holstein Friesian bulls at 37kg for fat and 43kg for protein. Riley, an F12J4 bull, is also a complete conformation bull, siring the best udders out of the new-comers, and has a dairy conformation BV that even rivals that of the Solaris sons.

3) Special Mention

Given there have now been three bulls from this herd to hit the RAS list (Jumpstart, Jaydie, Lionheart) over recent years, The Kraakmans of Putaruru have a special herd. But what is also outstanding is the fact these three bulls have come from three different cow families. **Kraakmans Lionheart** is the latest addition, and he is already well recognised given his use as a genomic bull. At 228 BW, and with more than 1700 daughters, this Moontide son is standing out on his own as a great conformation bull, with udder conformation which is second only to Riley.

Lionheart's daughters are also capacious and extremely fertile, with a Fertility BV of 6.4.



MOONTIDE SON, LIONHEART



A LIONHEART DAUGHTER

Get the traits you need for the herd you want.

It's a hard road breeding the perfect cow but if there's one thing that makes it easier it's the latest Alpha Sires Catalogue. In it you'll find high ranking bulls with proven traits for production, type and management - whatever you're looking for.

And with our short gestation and high input bulls you have all you need to help breed your ideal animal. The 2015 Alpha Sires catalogue is out in April. Look out for it in your mailbox or visit lic.co.nz



Greg Hamill,
genetics business manager

Launch yourself on to the genetic gain springboard

Since the inception of genomics, and LIC's commercialisation of its use in bull teams (2008), progressive farmers throughout the country have taken up the technology with a good deal of well-placed enthusiasm and belief.

Many early-adopters have sensed the potential opportunity genomics can deliver.

Feedback suggests this group of farmers believe genomics is a vehicle that can help maximise their breeding programmes; by tapping into the best-emerging sires within the industry, a promising 'spring-forward' on the rest of the industry can be achieved.

LIC continues to learn from, and modify, its genomic model; it does so in the

knowledge that for every extra BW (Breeding Worth) delivered to the national herd, nearly \$5 million gets added to the value of New Zealand's agricultural industry.

Millions of nucleotides act as the building block to the DNA profile of the bovine species - the science is therefore intricate and complex.

When LIC began investigating and developing this rapidly-evolving science, its original data set comprised about 5000 bulls, and application of the science was put over a 50,000 single nucleotide polymorphism (SNP) panel.

The cooperative's dataset now includes 7000 bulls, plus details on 70,000 cows (run over a 50,000 SNP panel).

Meanwhile, research continues over 500,000 SNP panel, allowing for greater visibility of a bull's true ability.

LIC has also sequenced more than 500 bulls, which involves mapping the entire bovine genome (there are 6 billion base pairs within a single dairy animal's genome).

The above makes for a compelling, powerful, dataset.

Further bolstering the reliability of the science, parent average and genomic adjustments have been implemented to correct early 'over-estimations' that were observed.

Nowadays LIC scientists better-understand ancestral links that flow through family lines. The proverb 'the apple doesn't fall far from the tree' is extremely relevant within the breeding industry - whether you're making decisions with genomic information or with progeny test information.

Speaking of which, LIC's Sire Proving Scheme (SPS) is world renown, and is the envy of many competitors.

That's because it allows New Zealand farmers to enjoy a rate of sustained genetic gain that is among the best in the world; it also has a clear focus - that is, to deliver to the industry animals that are the most-profitable and efficient convertors of feed into milksolids.

Prior to 2008, SPS comprised about 300

bulls, and each year LIC graduated a mere 10% of those animals.

Last year, with an intake of 145 bulls pre-selected on their genomic profile, LIC had 50 bulls with a BW of more than 200 (based on March 2015 AE figures); as well as providing 'better bang for buck', this gave the cooperative much greater selection discretion.

Since LIC began commercialisation of genomics, all bulls entering SPS have been selected with their genomic potential as part of the criteria.

Farmers have therefore been able to access many sires earlier (as genomic bulls) than would otherwise have been the case. Examples of genomically-selected bulls that have successfully progressed into recent Daughter Proven teams include 309084 Terrific; 508154 Solaris; and 110080 Hothouse.

Not long ago, the industry had to wait four years before the top 10% of 300 bulls were revealed through hard data.

Today, with the help of powerful genomic data, LIC is able to first profile 2000 bulls, bringing through the top 10% based on genomics.

The 200 selected bulls are then used in our SPS herds. From here, the top 10% (ie. 20 sires) are used early in our Forward

Pack selections.

This gives the dairy farmers of New Zealand exclusive access to best genomic sires - years before they receive a progeny test proof.

LIC is however highly-mindful that reliability is paramount when selecting a bull team.

A genomic bull with reliability of about 65% can still move by plus or minus 80 BW.

A way of reducing risk associated with such a scenario was introduced by LIC in 2013, with a renewed concept behind its traditional 'Forward Pack'.

The Forward Pack today offers a combination of LIC's very best Daughter Proven sires with the very best of its Genomically-Selected sires.

The team is balanced out with the best early proofs of the 'up-and-coming sires', picked out based on the current year's early lactation daughter data.

The upshot is this: Use of Forward Pack sires from any one of LIC's trio of bull breeds is designed to give farmers confidence. Teams of bulls have an advantage over individuals because they possess greater overall (BW) reliability, but the team concept means all-important functional traits are also given

the attention they deserve.

The 'average New Zealand cow' has, during the past 20 years, increased its production capacity by 100kg milksolids (*DairyNZ Statistics, 1993/1994 to 2013/2014*).

But behind the stats lies the real kicker: according to research, 60% of this production increase is attributable to genetic gain.

If, as a farmer, you want your herd's genetic gain to keep ahead of the current rate of genetic gain, you need to be doing something better than 'the average farmer'.

Why not use Forward Pack as a springboard in 2015/2016?

Talk to your Farm Solutions Manager about using Forward Pack, and spring forward your herd's genetic gain.



2015 POTENTIAL PREMIER SIRES HOLSTEIN-FRIESIAN TEAM - DAUGHTER PROVEN

14/3/15

AB Code	Winter	Bull Name	Breed Split	BW	Reliability %	BCS BV	Protein BV (kg)	Milkfat BV (kg)	Milk BV (litres)	Live-weight BV (kg)	Fertility BV %	Somatic Cell Score BV	Total Longevity BV (days)	Protein % BV	Milkfat % BV	Calving Difficulty BV %	OAD Index	No of herds	Tested daughters	NZ %	Beta Casein	Sire
111037	W	SAN RAY FM BEAMER-ET S2F	F14J2	318	79	0.01	50.0	54.6	1144	39	3.6	0.29	313	3.9	4.8	0.1	6227	36	72	34	A1A2	FAIRMONT MINT-EDITION
110042	W	MORRIS TF LAMONT S1F	F15J1	291	88	0.16	46.1	34.2	962	26	-1.0	0.18	321	3.9	4.5	2.0	5558	77	177	39	A1A2	TELESIS EUON FIRENZE
110052	W	GYDELAND EXCEL INCA S3F	F16	250	83	0.20	40.7	35.4	857	77	4.6	-0.01	634	3.9	4.7	1.6	4599	33	79	30	A1A2	WHINLEA NAUT EXCEL-ET S3F
111036		ARKAN FM BUSTER-ET S2F	F14J2	242	78	0.06	33.5	44.9	627	35	4.7	0.02	275	3.9	5.1	1.8	4891	38	66	34	A1A2	FAIRMONT MINT-EDITION
111032	W	MULLINS GB MARINER S3F	F16	234	79	0.16	31.5	17.4	782	-2	1.9	-0.27	228	3.8	4.4	0.0	4829	33	78	42	A1A1	GREENWELL TF BLITZ-ET S3F
110077	W	WHINLEA PF ESTEEM-ET S2F	F16	252	82	-0.03	41.8	38.0	1446	37	-1.5	-0.40	565	3.5	4.2	-0.2	4850	45	69	41	A2A2	PUKETIRO FROSTMAN S1F
110072	W	TRALEE HD RIPPA-ET S3F	F16	254	84	-0.10	29.3	45.8	623	3	1.8	-0.01	279	3.8	5.1	-1.8	5697	48	94	31	A1A2	HAZAE NAUT DECREE-ET S3F
110009	W	BAGWORTH PF LAUNCHPAD S1F	F16	233	79	0.06	36.3	31.1	1021	12	1.0	0.13	280	3.7	4.4	-0.1	4588	30	57	55	A2A2	PUKETIRO FROSTMAN S1F
106227	W	EDWARDS BANQ OVATION S3F	F15O1	227	99	0.09	32.5	5.8	712	11	0.6	-0.06	379	3.8	4.2	1.6	4474	4150	32651	39	A2A2	SRD JENERAYTIONS BANQUET
111011		ASHDALE FM KELSBELLS S1F	F15J1	219	80	0.16	36.1	26.4	775	48	4.0	0.00	365	3.9	4.6	3.7	3929	37	82	44	A1A2	FAIRMONT MINT-EDITION
108237	W	GREENWELL TF BLITZ-ET S3F	F16	226	98	0.08	42.4	28.7	973	42	0.2	-0.08	193	3.8	4.4	0.1	3639	380	1211	39	A1A2	TELESIS EUON FIRENZE
111055	W	DELTOP FM HARLEQUIN S2F	F16	231	80	0.02	40.4	25.0	1144	35	3.5	0.03	344	3.7	4.2	1.7	4160	37	85	23	A1A2	FAIRMONT MINT-EDITION
109068	W	RABARTS TF TOP DOG S2F	F15J1	210	86	0.14	42.6	23.1	1213	57	1.5	-0.18	379	3.7	4.1	1.0	3234	38	99	41	A1A2	TELESIS EUON FIRENZE
111057		OAKLINE DI LEGACY S2F	F16	188	82	0.33	33.6	19.1	1125	41	2.3	0.22	570	3.6	4.1	-1.8	3384	44	102	38	A1A2	DELTOP IDOL IGNITE S2F
111067		BYREBURN PF ETERNAL S2F	F16	188	97	0.33	27.6	28.9	830	36	4.8	-0.42	375	3.7	4.6	-1.0	3662	699	1899	43	A2A2	PUKETIRO FROSTMAN S1F
111053		KINGSDOWN MH JUBILANT S2F	F16	215	81	0.04	34.2	25.2	936	28	2.0	-0.03	364	3.7	4.4	1.6	4052	43	90	41	A1A2	MORROWS SUPER HERO-ET S2F
110049	W	SAVANNAHS HF HAMMER S1F	F15J1	212	98	0.04	29.7	25.1	787	23	5.2	-0.45	277	3.7	4.5	1.1	4230	1348	4783	43	A2A2	HIGGINS FORMAT
111044	W	WAI AU MAX TOMMO S3F	F16	206	82	0.10	33.8	26.1	889	34	2.4	-0.18	321	3.7	4.5	3.7	3760	59	107	40	A1A2	WOODCOTE TF MAXIMISER
110063		MAIRE PF GOLDEN BOY S2F	F16	186	99	0.27	29.3	29.0	896	32	2.2	-0.48	318	3.6	4.5	0.2	3458	1749	6133	45	A1A2	PUKETIRO FROSTMAN S1F
110056		TRALEE PF ALPHA-ET S1F	F16	194	81	0.15	28.7	22.0	763	18	2.5	0.26	363	3.7	4.5	1.4	3837	43	72	52	A1A2	PUKETIRO FROSTMAN S1F
107015	W	GREENWELL MD BRUTUS S3F	F16	203	99	0.05	28.4	9.8	674	21	3.9	-0.25	367	3.8	4.3	-1.9	3998	2022	7832	37	A2A2	MACFARLANES DAUNTLESS
110006	W	BAGWORTH PF GRANDEUR S1F	F16	188	83	0.21	30.5	43.1	826	62	0.0	-0.43	475	3.7	4.8	-1.5	3229	41	76	48	A2A2	PUKETIRO FROSTMAN S1F
111082		HAZAE FM MAJESTIC-ET	F16	209	77	-0.05	40.9	36.2	1250	39	3.0	-0.01	195	3.6	4.4	1.6	3430	36	66	20	A1A2	FAIRMONT MINT-EDITION
Expected team weighted average				243	99	0.10	37.0	31.7	935	32	2.1	-0.05	360	3.8	4.5	0.6	4550					

2015 POTENTIAL PREMIER SIRES HOLSTEIN-FRIESIAN TEAM - FORWARD PACK

10/04/15	Bull Name	Breed Split	gBW / BW	Reliability %	BCS BV/gBV	Protein BV/gBV (kg)	Milkfat BV/gBV (kg)	Milk BV/gBV (litres)	Liveweight BV/gBV (kg)	Fertility BV/gBV %	Somatic Cell Score BV/gBV	Total Longevity BV/gBV (days)	Protein % BV/gBV	Milkfat % BV/gBV	Calving Difficulty BV/gBV %	OAD Index	A2	Sire
111037	SAN RAY FM BEAMER-ET S2F	F14J2	316	79	0.01	50.0	54.6	1144	39	3.6	0.29	313	3.9	4.8	0.1	6227	A1A2	FAIRMONT MINT-EDITION
110042	MORRIS TF LAMONT S1F	F15J1	304	88	0.16	46.1	34.2	962	26	-1.0	0.18	321	3.9	4.5	2.0	5558	A1A2	TELESIS EUON FIRENZE
110052	GYDELAND EXCEL INCA S3F	F16	250	83	0.20	40.7	35.4	857	77	4.6	-0.01	634	3.9	4.7	1.6	4599	A1A2	WHINLEA NAUT EXCEL-ET S3F
111036	ARKAN FM BUSTER-ET S2F	F14J2	242	78	0.06	33.5	44.9	627	35	4.7	0.02	275	3.9	5.1	1.8	4891	A1A2	FAIRMONT MINT-EDITION
111032	MULLINS GB MARINER S3F	F16	234	79	0.16	31.5	17.4	782	-2	1.9	-0.27	228	3.8	4.4	0.0	4829	A1A1	GREENWELL TF BLITZ-ET S3F
110077	WHINLEA PF ESTEEM-ET S2F	F16	252	82	-0.03	41.8	38.0	1446	37	-1.5	-0.40	565	3.5	4.2	-0.2	4850	A2A2	PUKETIRO FROSTMAN S1F
110072	TRALEE HD RIPPA-ET S3F	F16	254	84	-0.10	29.3	45.8	623	3	1.8	-0.01	279	3.8	5.1	-1.8	5697	A1A2	HAZAE NAUT DECREE-ET S3F
110009	BAGWORTH PF LAUNCHPAD S1F	F16	233	79	0.06	36.3	31.1	1021	12	1.0	0.13	280	3.7	4.4	-0.1	4588	A2A2	PUKETIRO FROSTMAN S1F
	SPRING PAK BULLS		255															
112064	WELLS FM IMPACT S3F	F15J1	241	66	0.03	37.3	44.5	982	25	2.1	0.20	287	3.7	4.8	1.2	4752	A1A2	FAIRMONT MINT-EDITION
114004	TELESIS GB STIRLING S3F	F16	241	60	0.04	36.6	32.7	699	29	1.6	-0.07	216	3.9	4.6	1.2	4526	A1A1	GREENWELL TF BLITZ-ET S3F
113014	SPRING TRALEE BOSS-ET S3F	F15J1	233	65	0.07	34.0	24.5	850	18	3.3	-0.07	304	3.8	4.6	0.8	4632	A2A2	EDWARDS BANQ OVATION S3F
114042	MITCHELLS HP EUPHORIA S2F	F15J1	230	52	0.09	33.1	42.4	770	35	2.7	0.07	393	3.8	4.7	0.7	4658	A2A2	HOHAIS CHAMP PURANGI S3F
114086	BANNATYNNE STRIKER S3F	F15J1	228	61	0.08	29.1	17.9	566	17	2.0	-0.17	399	3.9	4.6	1.6	4750	A2A2	EDWARDS BANQ OVATION S3F
113013	SPRING TRALEE BOOM-ET S3F	F15J1	224	63	0.07	36.5	23.7	834	32	2.5	0.07	312	3.8	4.6	0.5	4129	A2A2	EDWARDS BANQ OVATION S3F
113026	TELESIS GB BENTLEY S2F	F15J1	234	60	-0.08	33.8	33.6	815	20	3.3	0.01	274	3.8	4.7	-1.2	4708	A2A2	GREENWELLS HF BONZA S3F
113129	PASSMORE SH VISIONARY S1F	F16	234	60	0.01	37.6	25.5	1013	36	3.6	-0.22	304	3.7	4.5	1.7	4032	A1A2	SAVANNAHS HF HAMMER S1F
113120	BOTHWELL WT MAXIMA S2F	F15J1	222	58	0.06	30.9	37.7	759	20	1.7	-0.04	286	3.8	4.7	1.3	4453	A1A2	WAI AU MAX TOMMO S3F
114038	GREENWELL HCP BENDER S3F	F16	217	52	0.03	36.2	28.0	719	47	1.5	0.11	375	3.9	4.6	1.1	3850	A2A2	HOHAIS CHAMP PURANGI S3F
114062	TE ATATU BLITZ ZEUS S2F	F16	208	60	0.10	36.5	30.2	1005	39	1.1	-0.10	334	3.7	4.4	-0.1	3641	A1A2	GREENWELL TF BLITZ-ET S3F
113007	HAZAE WT RADIANT-ET S3F	F16	203	59	0.09	31.3	28.8	856	22	-0.5	-0.01	327	3.7	4.7	1.7	3789	A1A1	WAI AU MAX TOMMO S3F
Expected team weighted average			251*	98	0.06	37.6	35.8	935	29	2.0	-0.01	351	3.8	4.6	0.6	4941		

Body Condition Score (BCS) movements have been taken into consideration for team selection and weightings. Shaded bulls are Daughter Proven with BW and BV's. Non shaded bulls are genomically selected with LIC gBW's and gBV's.

*The expected team weighted average BW includes BCS Prototype breeding values to be added to individual bull BW's in February 2016.

2015 POTENTIAL PREMIER SIRES JERSEY TEAM - DAUGHTER PROVEN

AB Code	Winter	Bull Name	Breed Split	BW	Reliability %	BCS BV	Protein BV (kg)	Milkfat BV (kg)	Milk BV (litres)	Live-weight BV (kg)	Fertility BV %	Somatic Cell Score BV	Total Longevity BV (days)	Protein % BV	Milkfat % BV	Calving Difficulty BV %	OAD Index	No of herds	Tested daughters	NZ %	Beta Casein	Sire
309084		LYNBROOK TERRIFIC ET S3J	J16	265	98	0.21	7.5	13.5	-348	-50	6.5	-0.02	442	4.2	5.5	-2.0	8452	804	2020	68	A2A2	FERNAIG ADMIRAL S3J
311019	W	SOUTH LAND JERICHO ET S3J	J16	249	96	0.19	6.0	9.2	-298	-55	5.8	-0.40	350	4.1	5.3	-3.1	7997	471	1171	66	A2A2	TAHAU HANK S3J
310034	W	WILLAND SIA DUETTO	J16	260	97	-0.05	8.5	29.2	-367	-69	-1.1	-0.02	195	4.3	5.9	-1.2	8199	690	1880	81	A2A2	SHALENDY IDEAL ASCENT S3J
311015	W	OKURA PCG HEADSTART	J16	236	77	0.12	0.9	17.5	-372	-67	4.8	-0.05	393	4.1	5.6	-4.2	8105	31	64	91	A2A2	PUHIPUHI CAPS GOLDIE S3J
311013	W	OKURA LT INTEGRITY	J16	229	98	0.15	7.8	21.5	-213	-53	2.5	0.06	271	4.1	5.5	-2.4	7319	693	1780	59	A1A2	LYNBROOK TERRIFIC ET S3J
309012	W	KELLAND KC SPEEDWAY	J16	231	83	-0.01	13.6	21.8	-79	-28	0.6	-0.09	351	4.1	5.4	-2.3	6878	31	71	74	A2A2	KIRKS RI CHARISMA ET GR
308128		HILLSTAR LOT JESTER S3J	J16	219	84	0.09	8.6	15.1	-269	-33	1.1	-0.32	347	4.2	5.4	-2.3	6784	34	67	66	A1A2	LYNBROOK OM TITAN ET S3J
311029		WILLAND LT DYNAMO	J16	221	97	-0.02	5.4	11.6	-397	-51	2.1	-0.14	297	4.2	5.5	-1.4	7116	554	1338	57	A1A2	LYNBROOK TERRIFIC ET S3J
Expected team weighted average				260*	99	0.09	7.0	17.8	-297	-53	2.8	-0.12	325	4.2	5.5	-2.4	7666					

2015 POTENTIAL PREMIER SIRES JERSEY TEAM - FORWARD PACK

10/04/15	Bull Name	Breed Split	gBW / BW	Reliability %	BCS BV/gBV	Protein BV/gBV (kg)	Milkfat BV/gBV (kg)	Milk BV/gBV (litres)	Liveweight BV/gBV (kg)	Fertility BV/gBV %	Somatic Cell Score BV/gBV	Total Longevity BV/gBV (days)	Protein % BV/gBV	Milkfat % BV/gBV	Calving Difficulty BV/gBV %	OAD Index	A2	Sire
309084	LYNBROOK TERRIFIC ET S3J	J16	265	98	0.21	7.5	13.5	-348	-50	6.5	-0.02	442	4.2	5.5	-2.0	8452	A2A2	FERNAIG ADMIRAL S3J
311019	SOUTH LAND JERICHO ET S3J	J16	249	96	0.19	6.0	9.2	-298	-55	5.8	-0.40	350	4.1	5.3	-3.1	7997	A2A2	TAHAU HANK S3J
310034	WILLAND SIA DUETTO	J16	260	97	-0.05	8.5	29.2	-367	-69	-1.1	-0.02	195	4.3	5.9	-1.2	8199	A2A2	SHALENDY IDEAL ASCENT S3J
311015	OKURA PCG HEADSTART	J16	236	77	0.12	0.9	17.5	-372	-67	4.8	-0.05	393	4.1	5.6	-4.2	8105	A2A2	PUHIPUHI CAPS GOLDIE S3J
	SPRING PAK BULLS		265															
314036	UPLAND PARK MZ INDIANA ET	J16	271	64	-0.11	8.6	23.8	-409	-57	5.3	0.02	370	4.3	5.8	-2.7	8985	A2A2	PUKEROA TGM MANZELLO
313016	BONACORD MURMUR BOLT	J16	268	68	-0.05	9.4	24.2	-209	-64	2.6	-0.25	271	4.1	5.5	-2.8	8460	A2A2	OKURA LIKA MURMUR S3J
314025	GLANTON DEGREE BALKAN ET	J16	257	63	0.05	9.7	26.1	-282	-47	3.0	-0.01	334	4.2	5.8	-2.5	8036	A1A2	ARRIETA NN DEGREE ET
314030	THORNWOOD OLM THOR	J16	263	64	-0.03	8.3	22.8	-202	-59	3.8	-0.09	360	4.1	5.5	-2.6	8393	A1A2	OKURA LIKA MURMUR S3J
314011	KAITAKA OI LEROY ET	J16	261	63	-0.03	8.7	24.4	-198	-68	2.2	0.01	263	4.1	5.6	-2.3	8293	A1A2	OKURA LT INTEGRITY
313047	EVLEEN INTEGRITY LARSON	J16	257	63	-0.02	11.8	27.3	-119	-51	2.3	-0.02	289	4.1	5.4	-3.2	7947	A2A2	OKURA LT INTEGRITY
314004	BELLS OI FLOYD S3J	J15F1	246	63	0.04	14.0	32.1	32	-36	2.2	0.05	339	4.0	5.6	-2.0	7436	A2A2	OKURA LT INTEGRITY
314039	FOXTON MANZ CLAYTON	J16	259	63	-0.16	8.8	24.0	-350	-51	1.1	-0.04	368	4.3	5.7	-2.2	8154	A2A2	PUKEROA TGM MANZELLO
Expected team weighted average			271*	98	0.04	7.8	21.5	-283	-57	3.4	-0.08	335	4.2	5.6	-2.6	8210		

Body Condition Score (BCS) movements have been taken into consideration for team selection and weightings.

Shaded bulls are Daughter Proven with AEU BW's and BV's. Non shaded bulls are genomically selected with LIC gBW and gBV's.

*The expected team weighted average BW includes BCS Prototype breeding values to be added to individual bull BW's in February 2016.

2015 POTENTIAL PREMIER SIRES KIWICROSS™ TEAM - DAUGHTER PROVEN

AB Code	Winter	Bull Name	Breed Split	BW	Reliability %	BCS BV	Protein BV (kg)	Milkfat BV (kg)	Milk BV (litres)	Live-weight BV (kg)	Fertility BV %	Somatic Cell Score BV	Total Longevity BV (days)	Protein % BV	Milkfat % BV	Calving Difficulty BV %	OAD Index	No of herds	Tested daughters	NZ %	Beta Casein	Sire
511051	W	DRYSDALES SOVEREIGN	F8J8	241	80	0.32	21.9	28.2	338	-4	2.4	-0.61	323	3.9	5.0	-3.1	6099	44	88	66	A2A2	PRIESTS SOLARIS-ET
508154	W	PRIESTS SOLARIS-ET	F6J10	236	99	0.31	17.7	19.6	188	-6	5.3	-0.96	307	4.0	5.0	-1.9	6148	1880	8563	76	A2A2	INGRAMS RAMROD
511052	W	MOODYS EXECUTIVE	F6J10	253	83	0.13	23.0	14.9	315	-11	4.9	-0.54	305	4.0	4.8	-3.0	6387	50	108	62	A2A2	PUHIPUHI CAPS GOLDIE S3J
511007	W	CASTLEGRACE MAKO	F7J9	235	81	0.27	18.9	23.6	-110	16	4.0	-0.22	444	4.3	5.4	-3.2	5965	41	92	71	A2A2	SHALLOCHS SENSATION
511037		BROWNS WILDFIRE	F7J9	231	79	0.27	18.6	20.6	93	-7	4.2	-0.34	298	4.1	5.1	-2.8	5962	50	84	77	A2A2	PRIESTS SOLARIS-ET
510003	W	ARKANS PROMOTER	F7J9	230	99	0.14	10.9	25.4	-254	-38	3.0	0.08	219	4.2	5.7	-1.8	6552	1895	8147	67	A1A2	HOWIES EASYRIDER
511026	W	ARKANS BEAUT ET	F9J7	235	98	0.06	30.1	27.7	590	4	0.7	-0.23	203	3.9	4.8	-0.5	5314	997	3041	40	A1A2	NEVRON SHOWMAN
511028		ARKANS BLOCKBUSTER	F8J8	224	98	0.09	14.6	25.8	154	-25	5.3	-0.27	259	3.9	5.2	-0.5	6201	1043	3266	65	A1A2	AMBROSE SUPER STAN
511031	W	RIVERVIEW RAIDER	F6J10	225	98	0.05	21.1	18.4	249	-14	2.7	-0.11	253	4.0	4.9	-0.4	5679	893	2695	74	A2A2	SHALENDY AQUARIUS
511011		PRIESTS SIERRA	F11J5	222	97	0.12	30.3	40.6	621	40	8.4	-0.38	221	3.9	5.0	0.8	4877	596	1597	50	A2A2	FAIRMONT MINT-EDITION
511014		KRAAKMANS LIONHEART	F9J7	226	97	0.03	15.6	28.5	193	-7	6.4	-0.34	386	3.9	5.2	-0.3	6177	609	1778	65	A1A2	CASTLEGRACE MOONTIDE
511005		PAYNES PROLIFIC	F7J9	209	78	0.14	10.5	10.8	-64	-35	0.0	-0.06	401	4.0	5.1	-1.0	5969	37	72	74	A2A2	PRIESTS SOLARIS-ET
Expected team weighted average				256*	98	0.18	19.6	23.4	191	-7	3.9	-0.38	303	4.0	5.1	-1.8	5987					

2015 POTENTIAL PREMIER SIRES KIWICROSS™ TEAM - FORWARD PACK

AB Code	Bull Name	Breed Split	gBW / BW	Reliability %	BCS BV/gBV	Protein BV/gBV (kg)	Milkfat BV/gBV (kg)	Milk BV/gBV (litres)	Liveweight BV/gBV (kg)	Fertility BV/gBV %	Somatic Cell Score BV/gBV	Total Longevity BV/gBV (days)	Protein % BV/gBV	Milkfat % BV/gBV	Calving Difficulty BV/gBV %	OAD Index	A2	Sire
511051	DRYSDALES SOVEREIGN	F8J8	241	80	0.32	21.9	28.2	338	-4	2.4	-0.61	323	3.9	5.0	-3.1	6099	A2A2	PRIESTS SOLARIS-ET
508154	PRIESTS SOLARIS-ET	F6J10	236	99	0.31	17.7	19.6	188	-6	5.3	-0.96	307	4.0	5.0	-1.9	6148	A2A2	INGRAMS RAMROD
511052	MOODYS EXECUTIVE	F6J10	253	83	0.13	23.0	14.9	315	-11	4.9	-0.54	305	4.0	4.8	-3.0	6387	A2A2	PUHIPUHI CAPS GOLDIE S3J
511007	CASTLEGRACE MAKO	F7J9	235	81	0.27	18.9	23.6	-110	16	4.0	-0.22	444	4.3	5.4	-3.2	5965	A2A2	SHALLOCHS SENSATION
511037	BROWNS WILDFIRE	F7J9	231	79	0.27	18.6	20.6	93	-7	4.2	-0.34	298	4.1	5.1	-2.8	5962	A2A2	PRIESTS SOLARIS-ET
510003	ARKANS PROMOTER	F7J9	230	99	0.14	10.9	25.4	-254	-38	3.0	0.08	219	4.2	5.7	-1.8	6552	A1A2	HOWIES EASYRIDER
	SPRING PAK BULLS		260															
514033	ZONA CATALYST	F9J7	282	61	0.01	24.9	34.6	421	-26	2.2	-0.01	345	3.9	5.1	-1.2	7379	A2A2	HOWIES CHECKPOINT
513070	HIGHGARTH RICOCHET	F6J10	251	63	0.10	15.5	21.5	277	-37	4.7	-0.23	400	3.8	4.9	-2.3	7097	A2A2	OKURA LIKA MURMUR S3J
514064	LYNSKEYS ACED IT	F8J701	265	62	-0.04	25.6	33.9	277	-10	0.5	0.00	315	4.1	5.2	-1.2	6647	A2A2	HOWIES CHECKPOINT
513098	ARKANS BOUNTY	F5J11	247	63	0.08	23.3	32.6	389	-19	1.0	0.15	308	3.9	5.0	-1.3	6349	A1A2	OKURA LT INTEGRITY
514047	TARAMONT HIGHTIDE	F9J7	266	60	-0.08	26.5	34.8	370	-7	1.0	0.03	350	4.0	5.1	-1.1	6648	A1A2	HOWIES CHECKPOINT
513076	KAMAHI KING	F5J11	252	64	0.00	15.3	25.6	33	-31	3.0	-0.13	359	4.0	5.3	-2.4	7029	A2A2	OKURA LIKA MURMUR S3J
514084	GREENMILE HC MILAN	F9J7	259	62	-0.06	28.3	34.8	487	-8	1.1	0.05	266	3.9	5.1	-1.3	6301	A2A2	HOWIES CHECKPOINT
514085	LYNBROOK ZING	F9J7	258	63	-0.07	26.2	42.9	482	-9	2.5	0.21	310	3.9	5.1	-1.4	6544	A2A2	HOWIES CHECKPOINT
514081	ELLISONS GILMORE	F5J11	247	64	0.00	16.1	17.9	280	-42	3.0	-0.34	338	3.8	4.7	-1.3	6886	A2A2	OKURA LIKA MURMUR S3J
514011	VALDEN ZELLO DECLAN	F8J8	256	61	-0.08	22.1	25.8	247	-14	1.5	-0.08	401	4.0	5.0	-0.3	6649	A2A2	PUKEROA TGM MANZELLO
514040	BALANTIS BENNIE	F10J6	247	53	0.00	25.1	38.9	497	-6	2.6	0.07	325	3.9	5.0	-0.1	6232	A2A2	SPEAKES BOLTER
514086	LYNBROOK X-FACTOR	F10J6	245	61	0.02	26.9	24.5	307	1	1.4	-0.13	259	4.1	4.9	-0.6	5801	A1A2	GREENWELL TF BLITZ-ET S3F
Expected team weighted average			263*	98	0.13	20.5	25.7	204	-12	3.1	-0.27	323	4.0	5.1	-2.0	6388		

Body Condition Score (BCS) movements have been taken into consideration for team selection and weightings.
Shaded bulls are Daughter Proven with AEU BW and BV's. Non shaded bulls are genomically selected with LIC gBW and gBV's.

*The expected team weighted average BW includes BCS Prototype breeding values to be added to individual bull BW's in February 2016.

2015 POTENTIAL PREMIER SIRES HOLSTEIN-FRIESIAN YEARLING TEAM - DAUGHTER PROVEN

AB Code	Bull Name	Breed Split	BW	Reliability %	BCS BV	Protein BV (kg)	Milkfat BV (kg)	Milk BV (litres)	Live-weight BV (kg)	Fertility BV %	Somatic Cell Score BV	Total Longevity BV (days)	Protein % BV	Milkfat % BV	Calving Difficulty BV %	OAD Index	No of herds	Tested daughters	NZ %	Beta Casein	Sire
111032	MULLINS GB MARINER S3F	F16	234	79	0.16	31.5	17.4	782	-2	1.9	-0.27	228	3.8	4.4	0.0	4829	33	78	42	A1A1	GREENWELL TF BLITZ-ET S3F
110077	WHINLEA PF ESTEEM-ET S2F	F16	252	82	-0.03	41.8	38.0	1446	37	-1.5	-0.40	565	3.5	4.2	-0.2	4850	45	69	41	A2A2	PUKETIRO FROSTMAN S1F
110072	TRALEE HD RIPPA-ET S3F	F16	254	84	-0.10	29.3	45.8	623	3	1.8	-0.01	279	3.8	5.1	-1.8	5697	48	94	31	A1A2	HAZEL NAUT DECREE-ET S3F
110009	BAGWORTH PF LAUNCHPAD S1F	F16	234	79	0.06	36.3	31.1	1021	12	1.0	0.13	280	3.7	4.4	-0.1	4588	30	57	55	A2A2	PUKETIRO FROSTMAN S1F
107015	GREENWELL MD BRUTUS S3F	F16	203	99	0.05	28.4	9.8	674	21	3.9	-0.25	367	3.8	4.3	-1.9	3998	2022	7832	37	A2A2	MACFARLANES DAUNTLESS
Expected team weighted average			233*	98	0.03	33.5	28.4	909	14	1.4	-0.16	344	3.7	4.5	-0.8	4792					

2015 POTENTIAL PREMIER SIRES KIWICROSS™ YEARLING TEAM - DAUGHTER PROVEN

AB Code	Bull Name	Breed Split	BW	Reliability %	BCSt BV	Protein BV (kg)	Milkfat BV (kg)	Milk BV (litres)	Live-weight BV (kg)	Fertility BV %	Somatic Cell Score BV	Total Longevity BV (days)	Protein % BV	Milkfat % BV	Calving Difficulty BV %	OAD Index	No of herds	Tested daughters	NZ %	Beta Casein	Sire
511051	DRYSDALES SOVEREIGN	F8J8	241	80	0.32	21.9	28.2	338	-4	2.4	-0.61	323	3.9	5.0	-3.1	6099	44	88	66	A2A2	PRIESTS SOLARIS-ET
511052	MOODYS EXECUTIVE	F6J10	253	83	0.13	23.0	14.9	315	-11	4.9	-0.54	305	4.0	4.8	-3.0	6387	50	108	62	A2A2	PUHIPUHI CAPS GOLDIE S3J
511007	CASTLEGRACE MAKO	F7J9	235	81	0.27	18.9	23.6	-110	16	4.0	-0.22	444	4.3	5.4	-3.2	5965	41	92	71	A2A2	SHALLOCHS SENSATION
Expected team weighted average			273*	98	0.24	21.0	22	183	0	3.8	-0.46	357	4.1	5.1	-3.1	6150					

Body Condition Score (BCS) movements have been taken into consideration for team selection and weightings.

*The expected team weighted average BW includes BCS Prototype breeding values to be added to individual bull BW's in February 2016.

Skipping through the generation interval with the youngsters.



Johanna Burton
genetics product specialist

At an individual farm level, it's an almost-mountainous task getting a herd's breeding worth (BW) to break into the top-10 percent of the national dairy herd.

That's because improvement in the farm's herd, year-on-year, must be better than overall improvement made by the national dairy herd (ie. the rest of the country's farmers).

So if you're using top genetics (such as Premier Sires) over a milking herd to produce replacement stock - as most other dairy farmers are - it's unlikely you're doing enough to make a break on the rest of the field.

Chances are you'll merely 'hold your place in the race'.

Sure, you'll expect to see cumulative improvement in your herd's efficiency and production, but it's an unlikely prospect that you'll pass those already ahead of you.

Matamata farmer Tony Hollinshead knows this.

So he's also acutely aware that, to achieve his goal of getting his herd BW in the top-10 percent nationally, he must do something different.

"I've got to make my gains in a different way, and they've got to be bigger gains that are faster.

"That's why I mate my yearlings. It's a big investment, but the returns do stack-up for us.

"Mating yearlings gives us options - it provides better BW replacement stock, and we get extra income from selling the surplus stock; it all helps, especially in a low payout year - so basically I'm getting paid to keep my best stock."

Tony milks 320 crossbred (KiwiCross™) cows on 112 effective ha. It's a system two farm, which last year produced 125,000kg milksolids.

Young stock are raised both on- and off-farm.

According to New Zealand Animal Evaluation Ltd figures, the average BW of 2014-born KiwiCross calves is 165.

However, the average BW for Tony's 2014-born KiwiCross calves is 213.

Tony puts the better figures down to accurate breeding from his best stock combined with intense selection pressure.

"Before I took the step (to mating yearlings) the average increase on BW across my calves was 13 BW points a year. Once I began mating the yearlings the average calf BW increase was 36."

To put this into context, DairyNZ states the national herd typically improves by about 11 BW units a year.

Tony concentrates his efforts on 'speeding up' a key component in the breeder equation: generation interval.

$$\text{Genetic gain} = \frac{\text{Selection intensity} \times \text{Heritability} \times \text{Phenotypic variation} \times \text{Accuracy of Selection}}{\text{Generation interval}}$$

For example, in the breeder's equation, a mated four-year old is represented by '4', but a mated yearling could be represented by '2', boosting potential genetic gain by a factor of two (all other factors being equal).

Farmers who mate yearlings are breeding from animals that tend to have the highest-available, and most-recent, genetic merit.

As rising two-year-olds, these animals will very shortly contribute to the herd's overall genetic merit as replacements, but their real power lies in their potential to provide heifer calves.

Mating these animals to the highest-available BW sires provides added impetus to the equation:

- According to NZAEL data, during mating in October 2014 the average BW of a KiwiCross 2013-born was 150 (compared to a herd median of 109 BW).
- Meanwhile, the average BW of LIC's yearling KiwiCross Team was 258.
- Putting the two together would result in an average (calf) BW of 204.

He typically needs to rear 65 replacements.

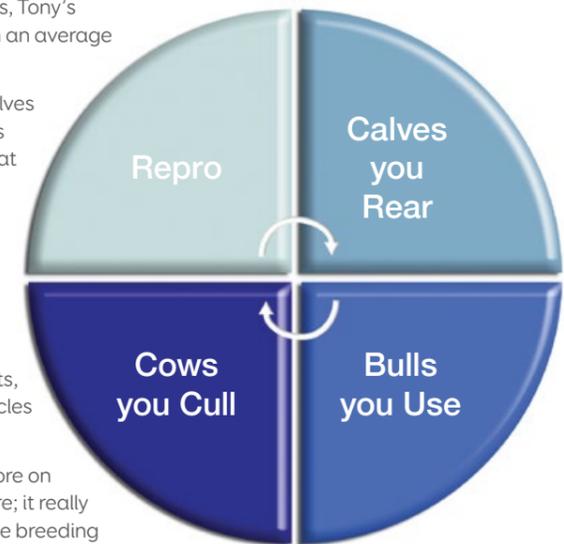
However, by adopting yearling matings on top of what the herd normally generates, Tony's getting about 115 heifer calves (with an average BW of 196).

This year, after selling 48 surplus calves with an average BW of 178, Tony has been left with a replacement line that boasts 213 BW.

He uses the DNA information from GeneMark, and ranks on BW to ensure he keeps only the most-elite animals.

Tony ensures that his yearlings are well fed so they are on target weights, and have experienced up to two cycles before planned start of mating:

"To me AB is the most important chore on the farm as it sets us up for the future; it really pays to invest the time to ensure (the breeding season) is set up right," he says.



Tony Hollinshead among his mated yearlings at his Matamata farm.

Tony's yearlings get mated to one round of AB (naturally cycling), and he uses Kamars to help detect animals on heat, "as they tend to have lighter heats it helps to have that extra certainty."

For management ease Tony uses GeneMark's DNA profiling service during calving to help correctly identify the parentage of calves.

Currently, in an effort to further-leverage income from the herd, Tony tails the yearlings with DNA profiled Jersey bulls so he can identify, and sell, the extra stock.

In a bid to further increase surplus heifer numbers, next season Tony will decide on whether to tap into the KiwiCross Sexed Semen team for a second round of the yearlings' AB.

Yearling rundown

- Yearlings have a reputation for being highly fertile, but one of the fundamentals is to ensure they reach key liveweight targets prior to mating (so all animals have hit puberty and are cycling well).
- Reaching target liveweights is essential for young stock to achieve top in-calf rates.
- MINDA Weights is an excellent tool to help farmers and graziers monitor yearlings; it uses the animal's liveweight breeding value to deliver an accurate reading of progress against individual- and group-liveweight targets.
- According to DairyNZ statistics, the number of yearlings to AB increased from 198,700 to 226,800 between the 2012/2013 and 2013/2014 seasons.

A black-and-white case of high-input beneath Whitecliffs



WHITECLIFFS, NORTH TARANAKI:
looking south towards the Ingram's farm.

Kevin and Lynda Ingram typify the Taranaki fighting spirit, having sold their West Coast lease farm in the 1990s (as part of a Waitangi treaty settlement), before going on to buy and sell two other farms, and then turning their back on dairying following a family tragedy. But seven years ago they returned to the industry.

They've therefore gone from milking pedigree-Jerseys in South Taranaki, to milking big-producing Holstein-Friesians in North Taranaki.

This is their story.

Kevin and Lynda Ingram are born-and-bred South Taranaki personalities who, early-on, built on their reputation as top Jersey breeders from Manaia.

But in 2003 the death of their son James, 19, in a car crash turned their world on its head.

"We carried on for about 18 months but we found it too hard," says Kevin.

"So we sold mid-season and came up to Urenui (North Taranaki) and bought Mataro Lodge, a then-dinner, bed, and breakfast.

"We did that for about 18 months but we found we missed farming, so we ended up buying this place."

'This place' overlooks a stunning, slightly isolated, part of the Taranaki bite called Whitecliffs.

It's an aptly-named location, and the best-available viewing is from outside Kevin and Lynda's kitchen window in the last house at the end of the road.

"We do have a lot of tourists come down this way in motor homes," Kevin says.

"People love it, they'll stare at the cliffs for a while; some will come right down and

venture up the walkway, where they can do a loop or go for a long trek all the way back to Tongaporutu."

Courtesy of their elevated farm, Kevin and Lynda's dining room has a 180-degree panoramic view straight out to sea, with Whitecliffs acting as the right bookend, and Mt Taranaki the left.

Prominently-parked near the lounge window stands a telescope.

"We use it to keep an eye on things," Kevin says.

"I've called DOC (Department of Conservation) a few times, as well as other fish-heads, to let them know of the trawlers that are cutting straight through the marine reserve out there."

At first glance not many would mess with Kevin, whose no-nonsense handle-bar moustache complements his imposing frame.

But he's quietly-spoken, deliberately choosing his words without fanfare or bluster.

He's slightly taken-aback when it's suggested the farm is high-input, albeit operating at the low-end of system five.

"There's no feed-pad or mixer wagon here; I don't get up at 2.30am to milk;

I don't waste any grass - I only make silage and hay when there's an absolute surplus, and I certainly don't shut the paddocks up for the sake of it - I just want to fully-feed my cows.

Kevin & Lynda Ingram own the 65-ha (effective) farm with daughter Leisha and son-in-law Nick Bettington

Their eldest son Peter is a former New Zealand test cricketer and Central Districts batsman

Top breeders: Contribution to the industry includes sires Glenariff Wopiti, Panache, and Ramrod

LIC farm solutions manager: Darrel McCracken

Milking 204 cows, predominantly Holstein-Friesians

BW: 171; PW: 218 (top 5% NZ)

High-input farming (system 5)

26-bail herringbone shed



FEED EM WELL: Kevin ensures his replacement stock 'are trained to eat' before they graduate to the milking platform.



"But when I sit back and analyse it, I suppose we are high-input. I made 500 bales of 13s (silage) this year and 200 bales of 15s (hay)... and I grow 5ha of maize on drystock."

His 204 Holstein Friesian milkers, which graze 65 effective hectares, will also consume at least 300 tonnes of palm kernel blend during the season.

Meanwhile, by season-end the 90 rising yearlings will have chomped their way through 50 tonnes of palm-kernel blend (the calves are currently fed about 250kg a day) – all this on top of the consistent pasture-based grazing.

"I've always fed the cows a lot more than most," Kevin says.

"My philosophy is that if you've got really good genetics, then you've got to maximise them.

"And that means teaching your young stock to eat... our calves are taught from an early age, and they're fully-fed right through until they go behind the fence as in-calf heifers with the dairy cows."

It's a hot topic for Kevin, who is critical of farmers who "pinch their cows at crucial times."

"A few farmers will suddenly feed loads during winter and spring, but that's not at all consistent; if you took a concentration camp prisoner in starvation mode and gave them a big banquet to eat, they wouldn't be able to face it – and if they tried to eat loads they'd spew it up. It's not natural.

"You've got to train your cows to eat so they slowly stretch into everything, so it becomes their natural process to get bigger, heavier, and produce more year-on-year."

Kevin estimates his herd will average 540kg MS per cow this season, slightly below the budgeted 570kg/cow due mainly to this season's dry summer conditions.

It's hard to debate Kevin's practise, given the farm's performance over the years.

While gradually decreasing the stocking rate, production has consistently trended up: When first purchased by Kevin and Lynda, the farm had just completed record production at 47,000 kilograms of milk solids.

"You've got to train your cows to eat so they slowly stretch into everything, so it becomes their natural process to get bigger, heavier, and produce more year-on-year."

But since that time the Ingrams have achieved 58k; 76k; 89k; 94k; 99k; and 105k. This season the farm was hoping for 115k – but given the dry conditions it appears the farm will fall short at an estimated 107k.

In terms of reproduction, Kevin has also made steady progress, with the farm having struggled with high empty rates (up to 18%) in the past; partly attributed to the fact the Ingrams don't utilise CIDRs, don't induce, and mate for 12 weeks only (this season they did nine weeks AB and three weeks natural mating; previously they've done about 7 weeks AB, followed by natural mating).

"Because you're always putting the pressure on – if there's any imbalance, such as low sunshine – they'll (the cows) keep producing, but the first thing they'll do is shut down their reproduction systems," Kevin says.

He's optimistic the farm will this year dip below the double-digit (empty rate) mark for the first time; this is on the back of a 95% six-week submission rate, identified through standing heats, and a 70% three-week in-calf rate among the yearlings.

The Ingram's mating plan involves using Premier Sires Forward Pack (Holstein Friesian), along with some Alpha Nominated semen. The yearlings are put over KiwiCross™.

"I'm very BW-oriented, and then I go for high protein and good udders," Kevin says.

"I'll sacrifice some BW for good udders and will even sacrifice a bit of udder for exceptional BW, but I won't use a bull with a negative udder rating.

"That's what we've found with higher producers – if there's any defect the udders will get blown to bits."

Are the AB sires fronting up?

"In my opinion the Friesian is ahead of the Jersey in udders nowadays – LIC and the Friesian breed has worked hard on udder support and teat placement, and that's been the co-op's breeding policy for a long time now and the benefits are clear (Kevin is a former TOP inspector and LIC District Manager).

Given a low-payout scenario, is Kevin ever forced to compromise on purchased feed?

"No, I've locked myself into a system and if I go chopping and changing I'm going to end up going nowhere. When there's a low payout, we know we've got to make sure we have a very good production season.

"The mindset has to be confident, and that's easy enough because we've got a plan; a year in advance we know what we're going to spend on feed, and we stick to it."

What's the story behind repro glory?

LIC's dairy information engine, MINDA, has recently acquired a 'Repro' tab, featuring a variety of potentially revealing graphs.

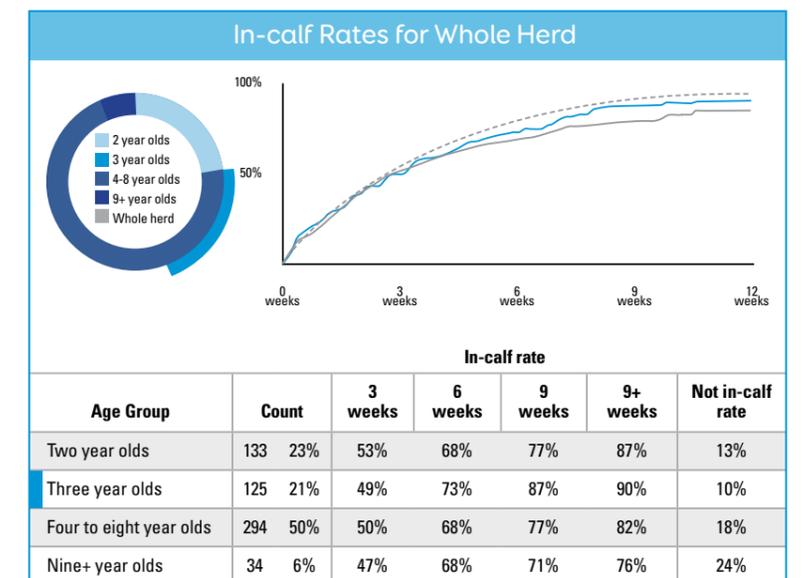
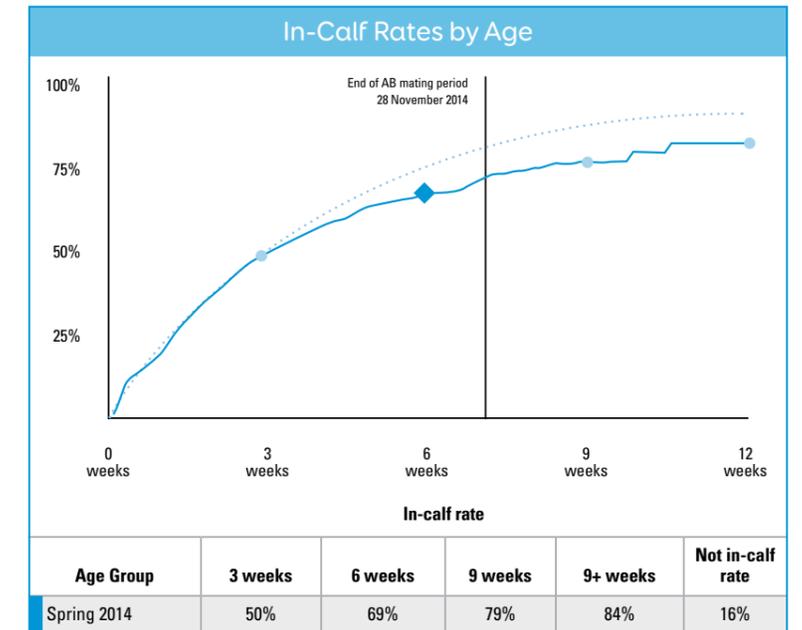
The graphs have been specifically aligned to DairyNZ's InCalf™ programme, and are designed to help uncover 'weak spots', or areas for improvement, in reproductive performance.

Assuming a farm's data is reliable, MINDA Repro will be most useful to farm managers after final pregnancy diagnosis is complete.

Combined with a farmer's knowledge of farm practise, the information will be especially powerful.

Alongside are two sample graphs (up to six are available) within MINDA Repro, sourced from real data of the same, randomly-selected (and anonymous) farm.

What management decisions could result from this information? Be sure to check out MINDA Repro today.



50 years of loyalty, honesty, and plain hard work - a lifetime achievement.



DEDICATION: Many Taranaki dairy farmers can thank Marlene Balsom for the region's reputation as excellent record-keepers of dairy cow information. Earlier this year she celebrated 50 years working for LIC

Marlene Balsom sorts things out.

She's always wanted to.

When at school in the 1950s, all she wanted to do when she left was to work in a New Zealand Post Office mail room, sorting mail.

But on 11 January 1965 she instead started her first job with LIC in Taranaki.

Fifty years on she's still with the cooperative, having celebrated the milestone on January 11 this year.

"It's gone so, so, quickly - yes for me it's a great achievement and I'm really proud to pass that milestone.

"One of the highlights over the 50 years was being involved in setting up the animal database, which involved many trips to Wellington and Hamilton - and it involved many debates in sticking up for what would be best for the farmer and the database."

She obviously loves LIC, loves farmers, loves the industry?

"Yes, all three.

"Because I love helping people get their records right - it's a great source of satisfaction for me.

"There's a good sense of camaraderie at LIC, and that's always been the case"

Marlene is today a MINDA Assist supervisor; her first job with LIC was somewhat of a 'herd test auditor', charged with checking records, weights, figures, and the like.

"Just helping farmers, that's the thing, that's what I know," she said, "being in the country and dealing with animals - it's what I enjoy."

Close Taranaki colleague and fellow LIC stalwart, Farm Solutions Manager Darrel McCracken (himself in line to chalk up 40 years with LIC in 2017), said Marlene was the embodiment of loyalty, honesty, and hard work - which naturally went down well with dairy farmers.

"She works some long hours - it's nothing for her to be still doing records on behalf of farmer clients late at night. And if she's getting behind she'll be up again at 5am or 6am sorting things out."

Naturally, Marlene had seen a lot of change at LIC and leaders of the cooperative had come and gone along the way, but two 'stuck out' for her:

"There's a good sense of camaraderie at LIC, and that's always been the case.

"When I started Mr Broad was the manager, he was an ex-army man. He knew how to handle people - you knew where you were with him.

"Cedric King was the same. He was the accounts man but also was ex-army; they were a different sort (of leadership) than these days, because they went through different times - they were very disciplined types and very structured but they had a good moral compass."

Marlene has lived her entire life on Mangorei Rd near New Plymouth, and is a fourth generation Balsom to have dairy farmed on the road, though today she leases out the land to a neighbour for his dairy operation: "It's a 68.5 acre block - I still work in acres, not hectares."

Marlene has a brother who owns a dairy farm in the Waikato and her sister is on a sheep and beef farm near Nelson.

Outside of work she enjoys investigating Mangorei Rd history and family history, and she enjoys watching rugby and cricket - but you get the sense that her real passion is reserved for dairying, farmers, and LIC.

Darrel said Marlene knew the province inside out.

"If you said a name of a farming client, 90 percent of the time she'd be able to accurately rattle off the farmer's participant (PTPT) code and their herd code - she'd say something like 'oh that's WXYZ and the herd code is 4/205'."

She liked to finish things off, and got grumpy when herd queries weren't sorted out and the job couldn't be closed off, Darrel said.

Marlene was highly regarded and people had enormous respect for her wishes: "When I ask older farmers in the district why they don't have a computer they say 'why bother when I can just ring Marlene?'"

Checkpoint checks out



Dial it up.

508077.

To anyone outside the dairy industry, these digits probably appear random enough.

But there are hundreds, if not thousands, of dairy breeders throughout New Zealand who will identify with this code for years to come.

The code belongs, and identifies, champion dairy sire Howies Checkpoint, who this season gave his last straw of semen to the industry.

Checkpoint burst on to the dairy genetics scene in the 2011/2012 season, catapulting his way to number one on the Ranking of Active Sires (RAS) list with an extraordinary breeding worth (BW) of 318.

An F9 J7 breed split, the KiwiCross™ bull was the result of an LIC contract mating between former top bull Shalendy Amorous and one of the best cows in New Zealand (which was itself a result of LIC's embryo programme, GeneRate).

When born in the 2008 calving season, Checkpoint's DNA immediately identified his elite status and he was ushered in to the Sire Proving Scheme.

His daughters proved just how good he really was when they came into milk in 2011, displaying an all-round ability to produce protein and fat at great efficiency, combined with healthy somatic cell count traits.

His production ability was backed up by great management traits, easy calving, and excellent longevity.

Footnote: The decision earlier this year to no longer collect from Checkpoint followed an incident which resulted in the bull being deemed too dangerous for staff to handle (this was the second incident with Checkpoint in the last 12 months; regardless of a bull's ranking, LIC's health and safety policy states that staff safety is paramount, and in accordance with this, the sire was culled). LIC has no reason to believe Checkpoint daughters will display temperament issues; as a trait, temperament is screened as part of the sire proving process, and farmers milking the animals report a placid nature in the shed.



Checkpoint gave his last straw of semen this year.

- Accounting for 866,480 inseminations, Checkpoint is one of eight bulls to exceed 800,000 lifetime inseminations in the history of New Zealand artificial breeding (and is the only KiwiCross; ie. Scotts Northsea achieved 787,000 lifetime inseminations).

"Sometimes an offspring will end up with an

extraordinary selection of the best genes, surpassing both parents, and that's what has happened here," said one genetics expert.

Checkpoint was born and reared on the KIWITAHU (near Morrinsville) farm of George and Glenda Howie, who ran the operation in conjunction with sharemilkers Wayne and Maree Benson.

Checkpoint's dam and grand-dam were highly regarded by the farmers; in 2012 George Howie said the family-line of cows were excellent grazers, and in the shed they were easily manageable, low-key, milkers.

In 2012, Checkpoint's grand-dam, Golden Girl, continued to graze on the Howie's farm, though at the time she had recently retired from the milking herd.

So while it's true Checkpoint won't be the leader of LIC's Premier Sires KiwiCross team in 2015, his influence will continue to be felt for some time yet: With 23 sons in the pipeline (as potential future sires for national herd), and with thousands more daughters expected to start milking, his genetics are expected to start paying significant dividends over the next few seasons.



- In his first full season as a Premier Sire (2012/2013), Checkpoint achieved 309,392 inseminations - also a record for the breed.
- In total, Checkpoint created more than 93,000 daughters for the national herd; 5708 are currently milked on farms around New Zealand (RAS list 14/3/15).
- Checkpoint's genetics have been exported around the world.
- Limited frozen supply of Checkpoint's genetics is available through Alpha Nominated.

Big strides

inside three seasons

for Geraldine sharemilker.

Sharemilkers Joe and Suz Wyborn were so determined to automate their mating season they spent nearly \$100,000 decking the shed out - a shed they can't take with them when the contract ends.

Since installing the 54-bail rotary shed with automatic cup removers, the Wyborns retro-fitted a Protrack system in 2010, and in 2011 installed an EZ Heat camera (assisted heat detection technology).

"Yes, it's been a big investment, but I don't pay much in wages," Joe says.

"We run this (920-cow) farm on four staff, including myself, so the investment makes good financial sense to me. We milk the cows in two mobs, with just one person overseeing each milking.

"So as far as I'm concerned the more technology we put in the shed, to make life easier, the better.

"I'm confident the savings I make in low-labour costs, combined with the dollar-gains from improved herd performance,

means the automation should pay for itself within a few years."

Admittedly, farm owners Leighton and Michelle Pye have agreed to pay a residual amount for the shed infrastructure improvements when the Wyborns move on, Joe says.

"Protrack is great and I wouldn't farm without it, but the original motivation to buy it was as a means to an end; we wanted automated oestrus detection using LIC's EZ Heat camera.

"We couldn't have EZ Heat without Protrack, so Suz and I bought it all ourselves and had it installed."

EZ Heat's camera picks up cows with activated heat patches, before sending a message to the drafting gate to set aside the oestrus cows for the artificial breeding (AB) technician.

The camera has been working for three straight seasons now, and it seems

"It was a big step, and I was a bit nervous to be honest, but now I'm bloody glad I did it".

more than mere coincidence that big changes in farm practise, and big strides in farm performance, have been made over that time.

"Our six week in-calf rate in the first year of using the camera was 67 percent, but in the second year it jumped to 74 percent, and then this year it's 75 percent," Joe says.



MATING MADE EZ: Joe Wyborn with his EZ Heat camera inside the Protrack-equipped dairy.

"The improvements are down to a number of factors, but the main one for me is better oestrus detection."

With Protrack and EZ Heat working in unison, Joe has gradually changed his mating programme over the past three years.

"In the first year I still leased 28 bulls to finish off mating with. Then two years ago I was confident enough to reduce things to 12 bulls (the six week in-calf rate jumped a massive seven percentage points in that year)."

But in the most recent season, Joe and Suz took the plunge and went with no-bull.

"It was a big step, and I was a bit nervous to be honest, but now I'm bloody glad I did it.

"We did it because we knew EZ Heat; we were confident with its reliability.

"When you buy a piece of technology you just need it to perform to expectations, and it does.

"It picks cows that haven't got a heat patch on their back, or ones that have an activated patch."

EZ Heat's reliable performance therefore meant Joe could do six weeks of replacement semen, followed by about four weeks of SGL.

"Having no-bulls has been fantastic. Ok, sure you've got to do AB every morning, but frankly that's nothing compared to bull management."

The savings on bulls more than covered the cost of the heat patches, and use of the SGL semen saw the investment paid back through additional days-in-milk, Joe says.

"Everything I did in those last four weeks (of mating) is going to (calve) about 10 or 11 days earlier.

"At 1.6 solids a day times about \$4.60, that's another \$70 per cow in revenue for me - plus I'm tightening up my calving, and the short gestation semen will help keep it tight."

Given their lean staff resource, the use of replacement and short gestation semen - with no-bull - would have been inconceivable to Joe and Suz without the automated solutions they've installed, particularly when it came to heat detection.

"It's (EZ Heat) brilliant and it's all quite easy. We love it," Joe says.